

DRAFT: November 2, 2007

U.S. Department of Energy
Washington, D.C.

ORDER

DOE O 430.2B

Approved: X-XX-07
Sunset Review: X-XX-09
Expiration: X-XX-11

**SUBJECT: DEPARTMENTAL ENERGY, UTILITIES AND TRANSPORTATION
MANAGEMENT**

1. **PURPOSE.** To provide requirements and responsibilities for managing Department of Energy (DOE) energy, utility supplies and services, sustainable buildings, and fleets. The objectives of this Order are:
 - a. To meet, lead or exceed the goals of all applicable laws, Executive Orders, and Federal Regulations with respect to continuous energy efficiency and water conservation improvements, increased and pervasive use of on-site, distributed renewable and clean energy resources, increased private sector development of utility-scale renewable and clean energy sources on DOE and other Federal land, sustainable buildings, optimized utilization of alternative fuel, hybrid, and plug-in electric vehicles, and the expansion and maintenance of an alternative fuel infrastructure at all DOE facilities, laboratories, and sites (see paragraph 6, References).
 - b. To accomplish on a Department-wide basis and through the maximum utilization of private sector, third-party financing, particularly from Energy Savings Performance Contracts and Utility Energy Services Contracts applied in a life cycle cost effective manner, the following leadership goals:
 - (1) The reduction in energy intensity by no less than thirty percent (30%) on average across the entire Department.
 - (2) The metering of all potable water use and the reduction of water consumption by no less than sixteen percent (16%).
 - (3) The installation of advanced metering systems in accordance with the DOE metering plan for the centralized monitoring of electric energy and thermal energy and water consumption on a department wide basis.
 - (4) The installation of on-site renewable energy (electric and thermal) generation at all Department sites.
 - (5) The installation of sustainable building materials and practices throughout the Department's existing building assets and the attainment of Leadership

in Energy and Environmental Design (LEED) Gold certification for all new construction and major renovations.

- (6) The utilization of standardized operations and maintenance (O&M) and measurement and verification (M&V) protocols coupled with real-time information collection and centralized reporting capabilities.
- (7) Providing access to alternative fuel infrastructure throughout the Department to ensure that all alternative fuel vehicles will operate on alternative fuels, and the replacement of DOE conventional-fuel vehicles with alternative fuel and hybrid technology vehicles, including plug-in hybrid electric vehicles as they become available.
- (8) The increase in development, generation and consumption of electric and thermal energy from renewable energy sources and combined heat and power sources.
- (9) The increase in the use of non-potable water sources such as reclaimed, recycled and grey water for appropriate applications.
- (10) The expedited improvement in the quality, consistency and centralization of data collected and reported through the installation and use of generally available information technologies (IT).

- 2. CANCELLATION. DOE O 430.2A, *Departmental Energy and Utilities Management*, dated 4-15-02. Cancellation of an Order does not, by itself, modify or otherwise affect any contractual obligation to comply with the order. Contractor Requirement documents (CRDs) that have been incorporated into or attached to a contract remain in effect until the contract is modified to either eliminate requirements that are no longer applicable or substitute a new set of requirements.

- 3. APPLICABILITY.

- a. Departmental Elements. Except for the exclusions in paragraph 3c, this Order applies to all Departmental elements. (Go to <http://www.directives.doe.gov> for the current listing of Departmental elements.) This list automatically includes all Departmental elements created after the Order is issued

The Administrator of the National Nuclear Security Administration (NNSA) will assure that NNSA employees and contractors comply with their respective responsibilities under this Order. Nothing in this Order will be construed to interfere with the NNSA Administrator's authority under section 3212(d) of Public Law (P.L.) 106-65 to establish Administration specific policies, unless disapproved by the Secretary

- b. Contractors. The Contractor Requirements Document (CRD) attached hereto as Attachment 1, sets forth the applicable requirements of this Order for Department facility contracts. DOE elements shall adapt the provisions of the CRD to ensure that all facilities' contractors and their respective sub-contractors, if any, comply with such requirements.
- c. Exclusion. None

4. REQUIREMENTS.

- a. Environmental Management System . Each DOE site must develop and implement an Environmental Management System (EMS) in accordance with DOE Order 450.1A and input data entries for the previous fiscal year by each November 15 to support reporting requirements.
- b. Reporting. The Department is required to submit an annual report to Congress in accordance with the National Energy Conservation Policy Act and a report to the Chairman of the Council on Environmental Quality (CEQ) in accordance with Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management.*
 - (A) Section 543 (c)(3) of the National Energy Conservation Policy Act (NECPA) as amended by the Energy Policy Act of 2005, Section 543©(3) states that the Secretary of Energy shall issue guidelines that establish criteria for exclusions from the energy performance requirements for a fiscal year, any Federal building or collection of Federal buildings, within the statutory framework provided by law. The Department issued Guidelines for Excluding Buildings from the Energy Performance Requirements of Section 543 of the National Energy Conservation Policy Act on January 27, 2006. This guidance can be found at http://www1.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf.
 - (B) Any contractor seeking to use the Excluded Building category must submit annual Exclusion Self-Certification in electronic spreadsheet format to the Federal Energy Management Program (FEMP) by November 15 of each year.
 - (C) An Excluded Building must still be separately metered and the contractor must also provide third party verification to FEMP that each Excluded Building has undergone a comprehensive energy audit and implemented all practicable, life cycle cost-effective energy conservation measures within the past five years.

- (D) The facility within which an Excluded Buildings is located is not also excluded.
- b. TEAM Initiative. Each Department site must have a written and annually updated energy, sustainable buildings and fleet management program designed to promptly achieve the objectives set forth in paragraph 1 and to comply with Executive Order 13423 dated January 24, 2007, the Instructions for Implementation of such Executive Order dated March 28, 2007, as well as all Guidance Documents issued in accordance thereto and any modifications or amendments that may be issued from time to time. In addition, whenever cost-effective lifecycle energy savings and capital improvements can be achieved through the application of private sector financing through contracting vehicles such as the Federal Energy Management Program's Energy Services Performance Contract (ESPC), such opportunities must be prioritized over the application of any appropriated funding. Furthermore, each energy, sustainable buildings and fleet management program must, to the greatest extent possible, ensure the achievement of the following leadership goals established by the Secretary's Transformational Energy Action Management (TEAM) Initiative:
- (1) Achieve no less than 30% energy intensity reduction across the agency in accordance with binding contracts in place for all Department sites no later than December 31st, 2008;
 - (2) Maximize installation of secure, on-site renewable energy projects at all DOE sites; and ensure that each DOE facility consumes at least 7.5% renewable energy by December 31, 2008 in accordance with EO 13423 guidance on renewable energy use;
 - (3) Require that DOE's entire fleet operate their Alternative Fuel Vehicles exclusively on alternative fuels;
 - (4) Baseline, implement and monitor a Department-wide plan by FY 2008 to reduce water consumption at least 16% relative to the baseline of the agency's water consumption in fiscal year 2007;
 - (5) Achieve a LEED Gold certification for all new construction, and major renovations; and
 - (6) Input into an enhanced and widely applied EMS all data necessary to manage the environmental energy and transportation components of all our activities.

- c. Energy and water management. The Department must use a variety of energy and water management strategies and tools to meet the goals of this Order. Strategies and tools include, but are not limited to, the following:
- (1) **Funding.** The following instruments should be utilized to the maximum extent practical to implement energy efficiency management projects, water management projects, and renewable energy projects with energy conservation measures (ECMs) having long- and short-term payback periods that can be incorporated into life-cycle cost effective contracts. Appropriated funds may be combined with Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) to leverage government funding and optimize project scope and reductions in energy use and cost of facility operations. Renewable energy measures must be considered in each ESPC or UESC proposal and be implemented where practical.
 - (A) **ESPCs.** ESPCs can facilitate and accelerate completion of large projects that can incorporate ECMs with long- and short-term payback periods, through life-cycle cost-effective performance contracts.
 - (B) **UESCs.** UESCs enable DOE facilities to contract for a broad array of energy management services (including project financing) on a sole source basis from the local serving electric, natural gas or water utility.
 - (C) **Direct Appropriated Funding.** Appropriations should be requested in annual budget requests and prioritized for application in projects or measures that do not generate savings sufficient to support private sector financing or for application as cost share to ESPCs/UESCs so that larger, more comprehensive projects can be undertaken.
 - (D) **Enhanced Use Leasing.** This tool can be utilized for large or long-term renewable and cogeneration projects and where appropriate and authorized.
 - (E) **Ratepayer Incentives.** Incentives and rebates from public benefit funds or utilities should be utilized at every opportunity to enhance energy reduction. Such rebates must either be used to reduce initial project cost or returned to the budgeted account through which the project was funded and may be included in estimated project savings for financed projects.

- (F) Retention of Funds. The Department's senior agency official (SAO) must issue guidance to ensure each site is required to retain and reinvest verified savings from energy and water conservation projects to further the energy and water conservation efforts at that facility.
- (2) On-site Renewable Energy. Maximize the use of on-site renewable energy to meet Federal renewable energy requirements. Each site must install a renewable energy project or show that renewable energy is not feasible at the site. If meeting the renewable energy requirement through on-site renewable generation is not feasible, sites must complete a waiver. A waiver must include a documented evaluation of the site's potential for both distributed and utility-scale renewable energy development. If on-site projects are inadequate to meet the renewable energy goal, sites will be allowed to increase the use of electricity from renewable energy to meet the renewable energy goal by purchasing renewable energy certificates or electricity from renewable energy generators. If purchases are necessary, sites must participate in aggregated purchases across the Department. All sites will include provisions for such renewable energy purchases as a component in all future DOE competitive solicitations for electricity.
- (3) Distributed Generation. Where life-cycle cost effective or meeting mission needs, the Department must implement distributed generation systems in new construction or retrofit projects, including renewable systems such as solar electric, solar lighting, geo (or ground coupled) thermal, small wind turbines, as well as other generation systems such as fuel cell, cogeneration, or highly efficient alternatives. In addition, the Department must use distributed generation systems when a substantial contribution is made toward enhancing energy reliability or security. Excess renewable power generated by a site can be sold to other power users.
- (4) Metering. To the maximum extent practicable, the Department must install metering devices that measure consumption of potable water, electricity, and thermal energy in each building and other facilities and grounds. Data from all Departmental advanced metering devices must be collected and incorporated into DOE wide centralized tracking system. Access to this system will be made available to facility personnel and senior agency official responsible for compliance with this Order. All facilities must incorporate the inclusion of metering requirements in all ESPCs and UESCs, as appropriate.

- (5) Auditing. All DOE elements must ensure that within 12 months prior to December 31, 2008 energy and water audits are conducted for all element operated facility square footage and that new audits are conducted at least every 5 years, thereafter. This audit requirement can be met by audits done in conjunction with ESPC or UESC projects.
- (6) Energy Star Tools. For applicable facilities, the Department must meet or exceed Energy Star Building criteria, and score the energy performance of buildings using the Energy Star Portfolio Manager rating tool as part of comprehensive facility audits.
- (7) Labs21. The Department must use programs such as the Labs21 partnership to encourage the development of sustainable, high performance, and low-energy laboratories.
- (8) Energy Purchasing. The Department must purchase electricity and thermal energy from sources that use high efficiency and low-carbon generating technologies in order to reduce greenhouse gas intensity to the maximum extent possible.
- (9) Water Efficient Products. Where applicable, the Department must purchase WaterSenseSM labeled products and other water efficient products and choose irrigation contractors who are certified through a WaterSense labeled program.
- (10) Demand Response. Each DOE facility must examine the cost effectiveness of participation in local demand response programs. To the extent the facility receives energy cost savings or payments they shall be reinvested in accordance with Section c(1)(F) above.
- (11) Electronic stewardship. To eliminate waste, the Department must purchase Energy Star compliant equipment, evaluate centralized personal computer (PC) power management strategies, assess data center and server operations and participate in the Electronic Product Environmental Assessment Tool (EPEAT) at <http://www.epeat.net/>.
- (12) Data Centers. Explore efficiency opportunities in applicable facilities to encourage the development of sustainable, high-performance and low-energy use data centers.

d. Sustainable Design/High Performance Buildings

- 1) New construction and major renovation. Beginning with the FY 2008 funding cycle, when planning the funding and design for construction or major renovation of buildings, the Department must ensure that such

construction or major renovation projects attain LEED Gold certification and address each of the five *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* (Guiding Principles) where life-cycle cost effective. All new construction or major renovation projects must incorporate renewable energy equipment into building design to the maximum extent feasible. In the event that a project manager has compelling reasons for attaining a certification other than LEED Gold or believes that a certification can be attained from a nationally recognized certification program that exceed LEED Gold requirements, such project manager may seek to obtain a waiver from the LEED Gold requirement from the Department's senior agency official (SAO) designated by the Secretary. The process and procedures required for obtaining such waiver shall be set forth by a guidance document issued by the Department's intra-agency High Performance Sustainable Buildings working group. In no case will a waiver permit any construction or renovation project that does not meet or exceed statutory goals, including the achievement of credits to exceed the ASHRAE standard by at least 30 percent, and address each of the five elements of the Guiding Principles.

- 2) Existing buildings. By the end of 2008, the Department must have entered into binding contracts that ensure the attainment of meeting the 15 percent goal in E.O. 13423 section 2(f)(ii) for incorporating the sustainable practices of the Guiding Principles for energy and water and related principles into the Department's capital asset building inventory. The 15 percent goal for existing buildings applies to the Department's full building inventory as it exists in FY 2008, including any new buildings brought on line and excluding any unneeded buildings disposed of or sold prior to 2008.
- 3) High performance building plans. On each anniversary date of August 15, 2007, the Department must submit a plan to OMB and OFEE that addresses how the Department will ensure that (1) all new construction and renovation projects implement design, construction, and maintenance and operation practices in support of the sustainable design/high-performance buildings goals of E.O. 13423 and statutory requirements and (2) existing facilities' maintenance and operation practices in support of the goals of E.O. 13423. Such plans must also align with E.O. 13327 and the Department's real property asset management plan. At a minimum, the plans must address the following:
 - (A) Employment of integrated design principles, optimization of energy efficiency and use of renewable energy, protection and conservation of water, enhancement of indoor environmental

quality, and reduction of environmental impacts of materials in accordance with the Guiding Principles and the other building and construction-related E.O. 13423 goals and instructions.

- (B) Procurement of ENERGY STAR-qualified or FEMP-designated products when purchasing energy consuming products. This includes incorporation into the specifications for all procurements involving energy consuming products and systems, including guide specifications, project specifications, and construction, renovation, and services contracts that include provision of energy consuming products and systems, and into the factors for the evaluation of offers received for the procurement, criteria for energy efficiency that are consistent with the criteria used for rating ENERGY STAR-qualified products and FEMP-designated products.
 - (C) An assessment of policy, criteria, contracts, and other areas, identifying gaps in the Department's sustainable building program.
 - (D) Key action items, including major milestones and responsible parties.
- 4) Database. The Department must maintain a Departmental High Performance Federal Buildings Database designed to document the planning, execution and maintenance of the requirements set forth in the this Section d. All such information must be available on the web. At least one project per year must be showcased in the existing High Performance Federal Buildings Database on the web at www.eere.energy.gov/femp/highperformance/index.cfm.
 - 5) Leased facilities. To the greatest extent practicable, the Department must include a preference for buildings that have attained LEED Gold certification with emphasis on energy efficiency, water efficiency, and use of renewable energy in the selection criteria for acquiring leased buildings. Alternately, the selection of buildings that have the Energy Star® Building label. When entering into renegotiation or extension of existing leases, the Department must include lease provisions that at the very least support the Guiding Principles. All build-to-suit lease solicitations must incorporate criteria for sustainable design and development, energy efficiency, and verification of building performance in accordance with the LEED Gold requirements.
 - 6) DOE Headquarters. The Forrestal and Germantown headquarters facilities are hereby designated as Department "showcase facilities" and are required to prominently feature, and periodically upgrade, the application

and use of state-of-the-art energy and water efficiency, high performance sustainable buildings, and renewable energy technologies.

- 7) Minimization of the use of petroleum-based fuels in DOE-owned buildings and facilities by switching to a less greenhouse gas intensive, non-petroleum-based energy source such as natural gas or renewable energy source as measured at the end source. For buildings and facilities that use petroleum-based fuel systems, provide dual-fuel capability where life cycle cost-effective and practicable.

e. Transportation/Fleet Management.

- (1) To achieve the petroleum reduction goal of Section 2(g) of E.O. 13423, the Department must:
 - (A) Reduce vehicle miles traveled through such methods as trip consolidation practices, increased use of videoconferencing and web conferencing, and the use of mass transportation/agency shuttles.
 - (B) Increase overall fleet fuel economy through acquisition of higher fuel economy vehicles (e.g., smaller sized vehicles, hybrid-electric vehicles, and other advanced technology vehicles).
 - (C) “Right-size” its fleet, employing the most fuel-efficient vehicle for the required task and having the appropriate number of vehicles relative to need.
 - (D) Employ efficiency strategies such as low rolling resistant tire, synthetic oil, and other technologies.
 - (E) Consider the use of plug-in hybrid electric vehicles (PHEVs). To be considered eligible for dual-fuel vehicle status, PHEVS must meet the alternative fuel definitions of the Energy Policy Act (EPAAct) of 1992, as amended by EPAAct 2005; to do so, PHEVs will have to meet the minimum driving range as specified by the U.S. Department of Transportation and use electricity generated from a non-petroleum source or from the grid.
- (2) To achieve the goals of the Secretary’s TEAM Initiative, and ensure that the Department remains a leader in sustainable transportation management, each Departmental Element must:
 - (A) By the end of FY 2008, each DOE site with alternative-fuel vehicles must have adopted an executable plan that ensures

exclusive use of alternative fuel, either on site or within 5 miles of the site. The procedure for each site to arrange alternative fuel access should be executed as follows:

1. Potential existing alternative fuel infrastructure must be investigated, using, among other tools, DOE's Alternative Fueling Station Locator.
 2. Where no infrastructure currently exists within 5 miles, DOE and NNSA fleet management and the site shall investigate possible solutions through private-sector alternative fuel distributors, including existing fuel vendors and stations. Where possible, partnerships should be sought with nearby Federal, State or local governments to aggregate demand for alternative fuel. Sites must work with DOE's Clean Cities program to coordinate these partnerships.
 3. When these options have been exhausted, DOE sites must initiate a procurement process for the installation of on-site alternative fueling infrastructure. On-site fueling should be pursued when cost-effective. Headquarters and NNSA fleet management should work with sites to develop proposals and seek private fuel vendors able to meet each site's specific need.
- (B) Each Departmental element must arrange for the procurement of alternative-fuel vehicles to replace the existing conventional-fuel fleet, with the goal of replacing the existing fleet with alternative fuel and/or hybrid technology vehicles by the end of FY 2010.
- (C) For the purposes of the TEAM Initiative, "alternative fuel vehicles" are defined according to Section 301 of EPA Act 1992.
- (3) Data and Tracking.
- (A) Annual reports. The Department must provide compliance data to FEMP no later than December 1 of each year or as otherwise required by FEMP, starting with the FY 2007 data and each year thereafter. The Department must implement internal policies that will ensure accurate tracking of the vehicle acquisitions and inventory, mileage, fuel consumption by fuel type, and other relevant data. FEMP must specify the reporting format and collection methods for data to be submitted. FEMP will

continually update and maintain FAST to reflect the goals of the TEAM Initiative and E.O. 13423.

- (B) Monthly reports. Upon the monthly receipt from GSA of the Department's vehicle tag numbers, fuel use data (by fuel type for all petroleum and alternative fuels) for covered GSA-leased vehicles, the Department must track these data to ensure its accuracy and also track comparable data for all covered Department-owned and commercially leased vehicles.
- (C) Credits. Alternative fuel vehicle (AFV) acquisition requirements are provided in section 303 of EPAct 1992. Vehicles acquired under section 303 means (i) new purchase, (ii) a newly leased vehicle, or (iii) a leased vehicle that replaces an existing leased vehicle. In calculating AFV acquisition compliance, the Department must receive the following credits:
 - One credit for each dual-fuel AFV (flexible fuel or bi-fuel), regardless of vehicle size class as long as the vehicle meets the AFV definition of EPAct 1992, as amended by EPAct 2005.
 - Two credits for each dedicated light-duty AFV.
 - Three credits for each dedicated medium-duty AFV.
 - Four credits for each dedicated heavy-duty AFV.
 - No credit is provided for AFVs that are not licensed for use on all roads and highways.

f. Water Management.

- (1) Implement water management program and plans. Water management programs are to include not less than four best management practices published by the FEMP. Implementation means incorporating water management plans into facility planning and operating processes; applying appropriate operations and maintenance options; and installing retrofit/replacement options that have been identified within the last two years from completed facility audits.

g. Utilities Acquisition and Management.

- (1) Every site will be supported by a Headquarters program office that will

coordinate its utilities acquisition and management program to provide a consistent corporate approach to utilities acquisition and management, especially at multi-program sites.

- (2) Utilities management performance measures will be commensurate with the value and importance of the asset.
- (3) Utilities acquisition and management performance measures must ensure formal, comprehensive, integrated, documented planning and control methods. These measures will address, but not be limited to, the following:
 - (a) a planning process for utilities acquisition and management,
 - (b) ensuring that each facility complies with the renewable and clean energy utility acquisition requirements of this order;
 - (c) ensuring electric, gas, and water loads are met and managed to minimize cost of utilities maximize reliability, and mitigate the impact of supply disruptions; and
 - (d) maximizing the use of clean and renewable energy resources (procured from off-site sources or generated on-site) to minimize environmental impacts and green houses gas emissions. Excess renewable power generated or procured by a site can be sold to other power users.
- (4) The process for operation and maintenance of physical assets at the site must ensure efficient and effective management and use of on-site utility distribution systems and supply contracts.
- (5) Utilities services must be acquired and disposed of through a DOE prime contract.
- (6) In the acquisition and management of utilities, DOE elements must ensure that all applicable Federal, State, and local laws and regulations are followed.
- (7) The installation of advanced meters at all buildings and participation in the centralized data collection, reporting and management system.
- (8) Track progress towards meeting energy efficiency, water conservation, greenhouse gas reduction and renewable energy goals using the EMS required per DOE O 450.1.

h. Personnel Management

- (1) Train personnel at each site to direct energy and water management programs and dedicate all or a substantial portion of their time to the effective implementation of energy and water management plans.
- (2) Ensure accountability by including the successful implementation of this order in the performance evaluations for the Senior Agency Official and relevant staff such as facility managers, energy managers, vehicle fleet managers, contracting officials and facility managers and others as appropriate.
- (3) Implement employee incentive programs to reward exceptional individual and team performance in increasing energy efficiency and water conservation, deploying renewable energy, minimizing waste, reducing utility costs, and reducing greenhouse gas emissions.
- (4) Implement outreach programs to motivate employees to become more efficient in their use of energy, water, and green products and services, and to minimize waste.

5. RESPONSIBILITIES.

a. Senior Agency Official.

- (1) As designated by the Secretary, ensure the requirements of this Order are implemented within the Department.
- (2) Monitor and report to the Secretary on Department activities to carry out the requirements of E.O. 13423.
- (3) Work with the Program Secretarial Officers and Administrator of NNSA in effecting the objectives of this Order, ensuring that Departmental efforts are aligned with current and future statutes and Executive Orders and facilitating timely responses to guidance or instruction requests from the CEQ, OFEE and OMB.

b. Office of Federal Energy Management Programs.

- (1) Develops DOE policies on energy efficiency, water conservation, and renewable energy and utilities supplies and services, and sustainable buildings and fleets.
- (2) Provides technical assistance to and supports the planning and budgeting process of DOE elements.

- (3) Acts as the DOE point of contact for external activities and issues relating to:
 - (a) Utilities and energy management at DOE facilities.
 - (b) High performance and sustainable buildings.
 - (c) Fleets
 - (d) Energy Policy Act 2005, Executive Order 13423, and OMB Scorecard goal tracking and reporting.
- (4) Develops and verifies in conjunction with the field elements and Program Secretarial Officers the performance objectives, measures, and expectations for management of energy utilities, sustainable buildings and fleets.
- (5) Convene a board of Program Energy Management Officials (PEMO) as necessary to review the Department's energy management program, objectives, accomplishment and to provide recommendations to meet TEAM Initiative goals. Convene working group meeting under the direction of the PEMO as necessary to discuss and resolve issues related to the implementation of this Order, other guidance and recommendations from the PEMO.
- (6) With respect to energy management:
 - (A) Develops, implements, monitors, and reports on the Secretary's TEAM Initiative and other Departmental Energy Management Program.
 - (B) Prepares and updates the Department's Annual Energy Management Implementation Plans.
 - (C) Evaluates the performance of field elements against the objectives, measures, and expectations of the Departmental Energy Management Program.
 - (D) Convenes the Energy Savings Performance Contract (ESPC) Review Board to coordinate concurrences from the DOE Program Office, the Office of the General Counsel and the Office of Management for all ESPCs and conveys the concurrence input to the relevant site office for consideration. The purpose of the Review Board is to assure that Department projects have included all permissible measures designed to meet or exceed the

requirements set forth in the TEAM Initiative and to facilitate and expedite project approvals.

- (E) Supports the SAO in processing and reviewing all waiver requests made to the SAO in accordance with the provisions of this Order.
- (7) With respect to utilities management:
- (A) With the Office of the General Counsel, jointly represent DOE consumer interests by intervening, or otherwise participating in, hearings or proceedings before regulating bodies for utilities when these proceedings affect DOE operations.
 - (B) For the acquisition and sale of utilities services, reviews documents, concurs and coordinates concurrences from the DOE Program Office, the Office of the General Counsel, the Office of Management, and the Office of the Chief Financial Officer for DOE actions. For NNSA actions, recommends approval to NNSA.
 - (C) Coordinates between program offices and field elements to support a life cycle cost-effective approach to utilities planning, acquisition, and management and participation in power purchase agreements and utility energy service contracts where available.
 - (D) Oversee the implementation of a Department wide system for the automated collection of energy and water use data from all advanced metering devices at DOE facilities for reporting and analysis purposes and making such data available to PSO and field personnel as requested and permitted.
- (8) With respect to sustainable buildings:
- (A) Co-chairs, provides guidance and supports the Department's Intra-Agency High Performance Sustainable Buildings working group tasked with accomplishing the TEAM initiative and maintaining the Department's High Performance Building Implementation Plan.
 - (B) Maintains the High Performance Federal Buildings Database and collects data and reports on federal agencies progress toward fulfilling sustainability requirements of Executive Order 13423.
 - (C) Provides support for the design and construction of laboratories and other high technology facilities such as data centers through the Laboratories for the 21st Century and similar programs.

- (D) Provides recommendations to the SAO for approval of waivers for new construction and major renovations.
- (9) With respect to fleets:
 - (A) Supports and facilitates Headquarters communication and coordination with DOE Field elements.
 - (B) Convenes a Fleets Working Group in order to execute the goals of the TEAM Initiative and provide information to the DOE sites. The working group must assist in coordination of alternative fuel infrastructure installation and report regularly to the Senior Energy Official on its progress.
- c. Program Secretarial Officers/Administrator NNSA.
 - (1) Ensure implementation of programs at their sites that will achieve the goals and objectives of the TEAM Initiative as well as other Department key energy, utilities, sustainable building, and fleet management objectives as provided from time to time by the Secretary or the SAO.
 - (2) Support DOE field element management of utilities, energy, sustainable building, and fleet management in a manner to ensure that planned facility use is consistent with the goals and objectives of the TEAM Initiative and other DOE policy and utilities management and energy management goals as provided from time to time by the Secretary or the SAO, while ensuring that the core mission of any facility is not compromised and protecting the safety and health of workers.
 - (3) Support FEMP to verify that field elements have utilities, energy, sustainable building, and fleet management performance criteria and measures in place to effectively achieve the TEAM Initiative goals and other DOE policy and utilities management and energy management goals as provided from time to time by the Secretary or the SAO.
 - (4) Support funding for life cycle cost-effective energy efficiency improvements in existing facilities based on the Guiding Principles and for the design and construction of new facilities meeting the LEED Gold rating, and a life cycle cost-effective analysis of alternatives.
 - (5) Lead in defining, planning, and budgeting for utilities, energy, sustainable building, and fleet program needs.

- (6) Coordinate reviews of field element performance for utilities and energy sustainable buildings and fleets management.
- (7) Support FEMP in the development and implementation of an automated system for the collection of energy and water use data from all advanced metering devices at DOE facilities for reporting and analysis purposes and coordinating with FEMP on which field and PSO representatives should have access to such data and provide annual funding to support proportional share the annual costs of maintaining the system

d. DOE Field Elements.

- (1) Lead in negotiating performance objectives, measures, and annual expectations for management of energy, utilities, sustainable buildings and fleets with their contractors.
- (2) Evaluate, at least annually, the performance of the contractors against field and FEMP established performance objectives and the TEAM Initiative, other Department leadership goals and Executive Order 13423 requirements set forth in this Order.
- (3) Incorporate performance objectives using a graded approach into energy, utilities, sustainable buildings and fleets management processes.
- (4) Prepare initial budget requests and planning for utilities and support budgets at their sites to accomplish management objectives for management of energy, utilities, sustainable buildings and fleets including compliance with LEED Gold certification for new construction and major renovations and the Guiding Principles for existing building assets.
- (5) Incorporate the CRD into all M&O and other appropriate contracts.
- (6) Provide timely reporting as required by this Order and pertinent input into guidance or other information requests as appropriate.
- (7) Integrate the requirements of this Order with the facilities management plan and align with the activities required under Executive Order 13327 (real property).
- (8) With respect to energy management:
 - (A) Set individual site goals that contribute to the Department achieving the TEAM Initiative leadership goals.

- (B) Modify all Department M&O and major site and facility management contracts to include the language found below. Typically, this language must be included in the statement of work section that addresses infrastructure management responsibilities and/or infrastructure requirements.
“Facility Operations and Infrastructure.

The contractor shall assist DOE through direct participation and other support in achieving DOE's energy efficiency goals and objectives in electricity, water, and thermal consumption, conservation, and savings, including goals and objectives contained in Executive Order 13423, Strengthening Federal Environmental, Energy, and Transportation Management. The Contractor shall maintain and update, as appropriate, its Site Plan (as required elsewhere in the contract) to include detailed plans and milestones for achieving site-specific energy efficiency goals and objectives. With respect to this paragraph, the Plan shall consider all potential sources of funds, in the following order: 1) the maximum use of private sector, third-party financing applied on a life-cycle cost effective basis, particularly from Energy Savings Performance Contracts and Utility Energy Services Contracts awarded by DOE; and 2) only after third-party financing options are evaluated, in the event that energy efficiency and water conservation improvements cannot be effectively incorporated into a private sector financing arrangement that is in the best interests of the Government, then DOE funding and funding from overhead accounts can be utilized.”

- (C) Demonstrate implementation of the requirements and achievement of the goals in paragraph 4 at the sites by ensuring that the sites participate in the Department's centralized data collection efforts for the TEAM initiative and providing FEMP with the input for reports required by statute and regulation.
 - (D) Submit all ESPC proposals to FEMP, in coordination with their line management, for coordination of comments from DOE's ESPC Review Board for consideration before signing the contract.
- (9) With respect to utilities management-
- (A) Lead the verification of a life cycle cost-effective approach to utilities planning, acquisition, and management in coordination with program offices and FEMP.

- (B) With General Counsel and FEMP, participate in DOE's utilities intervention process.
 - (C) Submit to FEMP, in coordination with their line management, for concurrence or recommendation for approval to NNSA, all contracts, contract modifications (excluding administrative or incremental funding modifications), or other arrangements with a utility company for the acquisition and sale of utility services.
 - (D) Support FEMP in the development of an automated system for the collection of energy and water use data from all advanced metering devices at DOE facilities for reporting and analysis purposes and coordinating with FEMP on which field and PSO representatives should have access to such data.
- (10) With respect to sustainable buildings
- (A) Identify a sustainability coordinator for each facility who has responsibility to meet the requirements of the TEAM Initiative and ensure that site infrastructure plans and plans for new buildings comply with the Guiding Principles.
 - (B) Ensure that budget submissions for new buildings and major renovations are adequate to ensure a rating of LEED Gold with compliance to the Guiding Principles.
 - (C) Ensure that site specifications for architectural, engineering, construction, and maintenance services and products specify compliance with the Guiding Principles.
 - (D) Beginning in FY 2008 and annually thereafter, submit to FEMP in coordination with their line management, and the DOE Intra-agency Sustainable Building Working Group, an inventory of new construction buildings entering CD-1.
 - (E) Beginning in FY 2008 and annually thereafter, submit to FEMP, in coordination with their line management, and the DOE Intra-agency Sustainable Building Working Group, an inventory of new and existing buildings certified as LEED Gold and in compliance with the High Performance Sustainable Buildings MOU.
 - (F) Demonstrate implementation of the requirements and achievement of the sustainability goals by ensuring that the sites participate in the Department's centralized data collection efforts for the TEAM initiative and providing FEMP with the input for reports required by statute and regulation.

- (G) Submit all ESPC proposals to FEMP, in coordination with their line management, for coordination of comments from DOE's ESPC Review Board for consideration of sustainability goals before signing the contract.

6. NECESSITY FINDING STATEMENT. In compliance with section 3174 of P.L. 104-201 (42 USC 7274k note), DOE hereby finds that this Order is necessary for the protection of human health and the environment or safety, fulfillment of current legal requirements, and conduct of critical administrative functions

7. REFERENCES

- a. Executive Order 13423, which was signed January 24, 2007, consolidates and strengthens five previous executive orders (13101, 13123, 13134, 13148 and 13149) and included implementation of two memoranda of understanding, one on high performance facilities and the other on electronic stewardship. It requires implementation of sustainable practices in energy efficiency, renewable energy, water conservation, acquisition, as well as fleet vehicle fuel reduction requirements.
- b. Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU) dated January 2006. This MOU includes the Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings which document a common set of sustainable Guiding Principles for integrated design, energy performance, water conservation, indoor environmental quality, and materials for agencies to: reduce the total ownership cost of facilities; improve energy efficiency and water conservation; provide safe, healthy, and productive built environments; and to promote sustainable environmental stewardship. The MOU was signed by participating agencies in January 2006 and later incorporated by reference into Executive Order 13423 as a requirement for all agencies.
- c. Public Law 102-486, Energy Policy Act of 1992, which provided definitions of alternative fuel vehicles and provided requirements for procurement of such vehicles.
- d. Public Law 109-58, Energy Policy Act of 2005, which directs federal agencies to reduce energy consumption per gross square foot in all federal buildings by 2 percent per year, resulting in a 20 percent reduction by 2015, relative to a 2003 energy consumption baseline; install electricity meters in all federal buildings by October 1, 2012; purchase Energy Star-qualified or FEMP-designated energy-efficient products in all energy-consuming product procurements; design new federal buildings that use 30 percent less energy than current code (ASHRAE 90.1-2004 for commercial buildings, IECC-2004 for residential buildings) using sustainable design principles; and seek to ensure that, of the total amount of

electric energy consumed in any fiscal year, the following amounts shall be renewable energy: not less than 3 percent in fiscal years 2007-2009, not less than 5 percent in fiscal years 2010-2012, and not less than 7.5 percent in fiscal year 2013 and each fiscal year thereafter.

- e. Executive Order 13221, Energy Efficient Standby Power Devices, which directs Federal agencies when purchasing commercially available, off-the-shelf products that use external standby power devices, or that contain an internal standby power function, to purchase products that use no more than one watt in their standby power consuming mode, if available, or products with the lowest standby power wattage.
- f. Secretary of Energy Memorandum, Greening the Government Through Efficient Energy Management - Utility Cost Reductions Applied to Renewable Energy Premiums, dated 9-7-2000, which directs Program Secretarial Officers to purchase non - hydroelectric renewable energy whenever overall net cost savings are achieved from competition, rate reductions, or contract negotiations. Non - hydroelectric renewable energy sources include generation from solar, geothermal, biomass, and wind technologies.
- g. Deputy Secretary of Energy Memorandum, Energy Savings Performance Contracting at DOE Sites, dated 6-29-2000, which provides DOE field elements with guidelines for accomplishing energy savings performance contracts.
- h. Public Law 94-163, Energy Policy and Conservation Act, 42 United States Code (U.S.C.) 6361, which establishes a Federal Energy Management Program.
- i. Public Law 95-619, National Energy Conservation Policy Act (NECPA), 42 U.S.C. 8201, which establishes requirements for life cycle cost analysis and retrofitting of Federal buildings.
- j. Public Law 99-272, Omnibus Budget Reconciliation Act of 1985, 42 U.S.C. 8287, which amends the NECPA to authorize Federal agencies to enter into Shared Energy Savings contracts.
- k. Public Law 100-615, Federal Energy Management Improvement Act of 1988, 42 U.S.C. 8251, which amends the NECPA to establish the Interagency Energy Management Task Force.
- l. Public Law 102-486, Energy Policy Act of 1992, 42 U.S.C. 8262, which amends the NECPA to set Federal energy management requirements through FY 2005, and added water conservation and renewable energy requirements.
- m. 10 CFR Part 433, Energy Efficiency Standards for the Design and Construction of New Federal Commercial and Multi-family High-Rise Residential Buildings,

which requires new Federal commercial and multi-family high-rise residential buildings to meet certain minimum standards.

- n. 10 CFR Part 435, Energy Efficiency Standards for New Federal Low-Rise Residential Buildings, which requires new Federal low-rise residential buildings to meet certain minimum standards.
- o. 10 CFR Part 436, Federal Energy Management and Planning Programs, which sets forth the rules for energy management and planning programs to reduce energy consumption and promote life cycle cost-effective investments in building energy systems and energy conservation measures for Federal buildings.
- p. 41 CFR Subpart 101-20.107, Energy Conservation, which requires energy-efficient operation of Federal buildings.
- q. 48 CFR Subpart 970.0470, Department of Energy Directives, which prescribes DOE policy pertaining to compliance with requirements incorporated into contracts through use of the clause at 48 CFR Subpart 970.5204-78 Laws, Regulations, and DOE Directives.
- r. 48 CFR Subpart 923.4, Use of Recovered Materials, which prescribes DOE policy pertaining to compliance with requirements incorporated into the contract through use of the clause at 48 CFR Subpart 970.2304, Use of Recovered/Recycled Materials.
- s. 48 CFR Subpart 970.41, Acquisition of Utility Services, which prescribes DOE policy pertaining to contractors that are authorized to acquire utilities service for a DOE facility.
- t. 48 CFR Subpart 970.72, Facilities Management, which prescribes DOE policy pertaining to compliance with energy management requirements incorporated into the contract through use of the clause at 48 CFR Subpart 970.5204-60.
- u. DOE P 450.4, *Safety Management System Policy*, dated 10-15-96, which establishes the Secretary's policy for conducting work safely and integrating safety with the conduct of all phases of work. The Policy includes pollution prevention and waste minimization within the scope of the term "Safety." The Policy is implemented by Department of Energy Acquisition Regulation (DEAR), 48 CFR Subpart 970.5204 (DEAR clause). The DEAR clause requires contractors to develop and implement an integrated system for all work (including any activities associated with pollution prevention, waste minimization, or energy management).
- v. 42 U.S.C. 2204, section 164, Atomic Energy Act of 1954, as amended, which authorizes DOE to enter into utilities contracts for periods not exceeding 25 years

for electric utilities services to the Paducah, and Portsmouth installations, and referral of such utilities contracts to Congress.

- w. 40 U.S.C. 481(a)(3), section 201(a)(3), Federal Property and Administrative Services Act of 1949, as amended, which authorizes the Administrator of the General Services Administration (GSA) to award contracts for utilities services for a period of up to 10 years, and Section 201(a)(4), which authorizes GSA to represent Federal agencies before Federal and State regulatory bodies in proceedings involving utilities services.
 - x. 48 CFR Chapter 1, Federal Acquisition Regulation (FAR), Part 41, Acquisition of Utility Services, which provides policies and procedures for acquisition of utilities services.
 - y. Letter of 2-12-87, whereby GSA delegated to the Secretary of Energy, in accordance with sections 201(a)(3) and 205(d) of the Federal Property and Administrative Services Act of 1949, as amended (40 U.S.C. 481(a)(3) and 486(d)), the authority to enter into long-term utilities contracts, for a period not to exceed 10 years, for all utilities services (i.e., electric, natural gas, water, sewage, and steam).
 - z. DOE O 450.1A, *Environmental Protection Program*.
8. IMPLEMENTATION. This Order must be implemented within XX months at each site with site-specific performance measurement systems containing performance objectives, measures, and expectations.
9. CONTACT. For answers to questions concerning this Order, contact FEMP at 202-586-5772.

BY ORDER OF THE SECRETARY OF ENERGY:

Samuel W. Bodman
Secretary of Energy

ATTACHMENT 1**CONTRACTOR REQUIREMENTS DOCUMENT****DOE ORDER 430.2B, *DEPARTMENTAL ENERGY, UTILITIES AND TRANSPORTATION MANAGEMENT* (the “Order”)**

Major facilities contractors managing and operating Department of Energy (DOE), including National Nuclear Security Administration (NNSA), facilities or subcontracting the operation and maintenance of DOE facilities must have a documented energy management program and an energy management plan. Major facilities contractors are responsible for (1) compliance with the requirements of this Contractor Requirements Document (CRD) regardless of the performer of the work and (2) flowing down the requirements of the CRD of the Order to subcontracts to the extent necessary to ensure contractors' compliance with the requirements. The following items are required of the contractor organization using a graded approach:

1. Energy Management Program.

- (A) The energy management program must be performance oriented and demonstrate continuous life cycle cost-effective improvements to increase the energy efficiency and effective management of energy, water and vehicle fleets within DOE's buildings, laboratories, and production facilities while increasing the use of clean energy sources.
- (B) The energy management program must be sufficiently staffed with trained energy managers to accomplish life cycle cost-effective energy efficiency improvements at the site and report progress toward statutory, regulatory and departmental requirements. The site will dedicate all or a substantial portion of the energy or facility managers time to the effective implementation of energy , water and fleet management plans.
- (C) The energy management program must be integrated with site planning, operations, and acquisition systems. Management systems must be in place to report the site's energy consumption and cost for fuels by fuel type and energy category through Department's data energy management system. Such systems must be updated to DOE standards, which will include the real time collection of such data. The data energy management system is a Web-based data collection and reporting system. Management systems must be in place to document and measure progress toward the Department's energy efficiency leadership goals and requirements and to confirm that renewable energy infrastructure development, energy and utilities management, water conservation, and fleet performance expectations are being met or exceeded.

- (D) The energy management program must be integrated with the site's Integrated Safety Management System to optimize the efficient use of energy and water, while minimizing waste and protecting the safety and health of workers.

2. Energy Management Plan.

- (A) Each contractor must have a written and annually updated energy, sustainable buildings and fleet management program designed to promptly achieve the objectives set forth and to sustain compliance with Executive Order 13423 dated January 24, 2007, the Instructions for Implementation of such Executive Order dated March 28, 2007, as well as all Guidance Documents issued in accordance thereto and any modifications or amendments that may be issued from time to time. This program must have a special focus on the Department's Transformational Energy Action Management (TEAM) objectives and an executable plan in place by year end 2008.
- (B) The energy management plan must contain an emergency conservation component to mitigate the effects of a sudden disruption in the supply of fuel oil, natural gas, electricity, and other critical energy supplies.

3. Environmental Management Systems (EMS). The contractor shall, at all appropriate organizational levels, develop, implement, and maintain an EMS consistent with the requirements of DOE Order 450.1 and its applicable Contract Requirements Document.

4. Reporting. Each contractor is required to submit an annual report to appropriate Department office in accordance with the National Energy Conservation Policy Act and in accordance with Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*.

- (A) Section 543 (c)(3) of the National Energy Conservation Policy Act (NECPA) as amended by the Energy Policy Act of 2005, Section 543(c)(3) states that the Secretary of Energy shall issue guidelines that establish criteria for exclusions from the energy performance requirements for a fiscal year, any Federal building or collection of Federal buildings, within the statutory framework provided by law. The Department issued Guidelines for Excluding Buildings from the Energy Performance Requirements of Section 543 of the National Energy Conservation Policy Act on January 27, 2006. This guidance can be found at http://www1.eere.energy.gov/femp/pdfs/exclusion_criteria.pdf.
- (B) Any contractor seeking to use the Excluded Building category must submit annual Exclusion Self-Certification in electronic spreadsheet format to the Federal Energy Management Program (FEMP) by November 15 of each year.

- (C) An Excluded Building must still be separately metered and the contractor must also provide third party verification to FEMP that each Excluded Building has undergone a comprehensive energy audit and implemented all practicable, life cycle cost-effective energy conservation measures within the past five years.
 - (D) The facility within which an Excluded Buildings is located is not also excluded.
5. TEAM Initiative. Each contractor must have a written and annually updated energy, sustainable buildings and fleet management program designed to promptly comply with Executive Order 13423 dated January 24, 2007, the Instructions for Implementation of such Executive Order dated March 28, 2007, as well as all Guidance Documents issued in accordance thereto and any modifications or amendments that may be issued from time to time. In addition, whenever cost-effective lifecycle energy savings and capital improvements can be achieved through the application of private sector financing through contracting vehicles such as the Federal Energy Management Program's Energy Services Performance Contract (ESPC), such opportunities must be prioritized over the application of any appropriated funding. Furthermore, each energy, sustainable buildings and fleet management program must, to the greatest extent possible, ensure the achievement of the following leadership goals established by the Secretary's Transformational Energy Action Management (TEAM) Initiative:
- (A) Achieve no less than 30% energy intensity reduction across the contractor's facility/site in accordance with binding contracts in place no later than December 31st, 2008;
 - (B) Maximize installation of secure, on-site renewable energy projects at the contractor's facility/site and ensure that such facility/site consumes at least 7.5% renewable energy by December 31, 2008 in accordance with EO 13423 guidance on renewable energy use;
 - (C) Require that the contractor's entire fleet operate its Alternative Fuel Vehicles exclusively on alternative fuels;
 - (D) Baseline, implement and monitor a facility/site-wide plan by FY 2008 to reduce water consumption at least 16% relative to the baseline of the facility/site's water consumption in fiscal year 2007;
 - (E) Achieve a LEED Gold certification for all new construction, and major renovations; and
 - (F) Input into an enhanced and widely applied EMS, all data necessary to manage the environmental energy and transportation components of all facility/site activities.

6. Energy and water management. Each contractor must use a variety of energy and water management strategies and tools to meet the goals of the Order. Strategies and tools include, but are not limited to, the following:
- (A) Funding. The following instruments should be utilized to the maximum extent practical to implement energy efficiency management projects, water management projects, and renewable energy projects with energy conservation measures (ECMs) having long- and short-term payback periods that can be incorporated into life-cycle cost effective contracts. Appropriated funds may be combined with Energy Savings Performance Contracts (ESPCs) and Utility Energy Service Contracts (UESCs) to leverage government funding and optimize project scope and reductions in energy use and cost of facility operations. Renewable energy measures must be considered in each ESPC or UESC proposal and be implemented where practical.
 - 1) ESPCs. ESPCs can facilitate and accelerate completion of large projects that can incorporate ECMs with long- and short-term payback periods, through life-cycle cost-effective performance contracts.
 - 2) UESCs. UESCs enable DOE facilities to contract for a broad array of energy management services (including project financing) on a sole source basis from the local serving electric, natural gas or water utility.
 - 3) Direct Appropriated Funding. Appropriations should only be requested in annual budget requests and prioritized for application in projects or measures that do not generate savings sufficient to support private sector financing or for application as cost share to ESPCs/UESCs so that larger, more comprehensive projects can be undertaken.
 - 4) Ratepayer Incentives. Incentives and rebates from public benefit funds or utilities should be utilized at every opportunity to enhance energy reduction. Such rebates must either be used to reduce initial project cost or returned to the budgeted account through which the project was funded and may be included in estimated project savings for financed projects.
 - (B) On-site Renewable Energy. The contractor is required to maximize the use of on-site renewable energy to meet Federal renewable energy requirements. Each facility/site must install a renewable energy project or show that renewable energy is not feasible at the site. If meeting the renewable energy requirement through on-site renewable generation is not feasible, sites must complete a waiver. A waiver must include a documented evaluation of the site's potential for both distributed and utility-scale renewable energy development. If on-site projects are inadequate to meet the renewable energy goal, sites will be allowed to increase the use of electricity from renewable energy to meet the renewable energy goal by

purchasing renewable energy certificates or electricity from renewable energy generators. If purchases are necessary, sites must participate in aggregated purchases across the Department. All facilities/sites will include provisions for such renewable energy purchases as a component in all future DOE competitive solicitations for electricity.

- (C) Distributed Generation. Where life-cycle cost effective or meeting mission needs, the contractor must implement distributed generation systems in new construction or retrofit projects, including renewable systems such as solar electric, solar lighting, geo (or ground coupled) thermal, small wind turbines, as well as other generation systems such as fuel cell, cogeneration, or highly efficient alternatives. In addition, the contractor must use distributed generation systems when a substantial contribution is made toward enhancing energy reliability or security. Excess renewable power generated by a site can be sold to other power users.
- (D) Metering. To the maximum extent practicable, the contractor must install metering devices that measure consumption of potable water, electricity, and thermal energy in each building and other facilities and grounds. Data from all advanced metering devices must be collected and incorporated into DOE wide centralized tracking system. Access to this system will be made available to facility personnel and the senior agency official responsible for compliance with the Order. All facilities/sites must incorporate the inclusion of metering requirements in all ESPCs and UESCs, as appropriate.
- (E) Auditing. All contractors must ensure that within 12 months prior to December 31, 2008, energy and water audits are conducted for all operated facility/site square footage and that new audits are conducted at least every 5 years, thereafter. This audit requirement can be met by audits done in conjunction with ESPC or UESC projects.
- (F) Energy Star Tools. For applicable facilities/sites, the contractor must meet or exceed Energy Star Building criteria, and score the energy performance of buildings using the Energy Star Portfolio Manager rating tool as part of comprehensive facility audits.
- (G) Labs21. For applicable facilities/sites, the contractor must use programs such as the Labs21 partnership to encourage the development of sustainable, high performance, and low-energy laboratories.
- (H) Energy Purchasing. The contractor must purchase electricity and thermal energy from sources that use high efficiency and low-carbon generating technologies in order to reduce greenhouse gas intensity to the maximum extent possible.

- (I) Water Efficient Products. Where applicable, the contractor must purchase WaterSenseSM labeled products and other water efficient products and choose irrigation contractors who are certified through a WaterSense labeled program.
- (J) Demand Response. Each contractor must examine the cost effectiveness of participation in local demand response programs. To the extent the facility/site receives energy cost savings or payments, they shall be reinvested to further the energy and water conservation efforts at that facility/site.
- (K) Electronic stewardship. To eliminate waste, the contractor must purchase Energy Star compliant equipment, evaluate centralized personal computer (PC) power management strategies, assess data center and server operations and participate in the Electronic Product Environmental Assessment Tool (EPEAT) at <http://www.epeat.net/>.
- (L) Data Centers. Explore efficiency opportunities in applicable facilities to encourage the development of sustainable, high-performance and low-energy use data centers.

7. Sustainable Design/High Performance Buildings.

- (A) New construction and major renovation. Beginning with the FY 2008 funding cycle, when planning the funding and design for construction or major renovation of buildings, the contractor must ensure that such construction or major renovation projects attain LEED Gold certification and address each of the five *Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings* (Guiding Principles) where life-cycle cost effective. All new construction or major renovation projects must incorporate renewable energy equipment into building design to the maximum extent feasible. In the event that a project manager has compelling reasons for attaining a certification other than LEED Gold or believes that a certification can be attained from a nationally recognized certification program that exceed LEED Gold requirements, such project manager may seek to obtain a waiver from the LEED Gold requirement from the Department's senior agency official (SAO) designated by the Secretary. The process and procedures required for obtaining such waiver shall be set forth by a guidance document issued by the Department's intra-agency High Performance Sustainable Buildings working group. In no case will a waiver permit any construction or renovation project that does not meet or exceed statutory goals, including the achievement of credits to exceed the ASHRAE standard by at least 30 percent, and address each of the five elements of the Guiding Principles.
- (B) Existing buildings. By the end of 2008, the contractor must have entered into binding contracts that ensure the attainment of meeting the 15 percent goal in

E.O. 13423 section 2(f)(ii) for incorporating the sustainable practices of the Guiding Principles for energy and water and related principles into the Department's capital asset building inventory. The 15 percent goal for existing buildings applies to the facility/site's full building inventory as it exists in FY 2008, including any new buildings brought on line and excluding any unneeded buildings disposed of or sold prior to 2008.

- (C) High performance building plans. On each anniversary date of August 15, 2007, the contractor must submit a plan to appropriate Department office that addresses how the contractor will ensure that (1) all new construction and renovation projects implement design, construction, and maintenance and operation practices in support of the sustainable design/high-performance buildings goals of E.O. 13423 and statutory requirements and (2) existing facilities' maintenance and operation practices in support of the goals of E.O. 13423. Such plans must also align with E.O. 13327 and the Department's real property asset management plan. At a minimum, the plans must address the following:
- 1) Employment of integrated design principles, optimization of energy efficiency and use of renewable energy, protection and conservation of water, enhancement of indoor environmental quality, and reduction of environmental impacts of materials in accordance with the Guiding Principles and the other building and construction-related E.O. 13423 goals and instructions.
 - 2) Procurement of ENERGY STAR-qualified or FEMP-designated products when purchasing energy consuming products. This includes incorporation into the specifications for all procurements involving energy consuming products and systems, including guide specifications, project specifications, and construction, renovation, and services contracts that include provision of energy consuming products and systems, and into the factors for the evaluation of offers received for the procurement, criteria for energy efficiency that are consistent with the criteria used for rating ENERGY STAR-qualified products and FEMP-designated products.
 - 3) An assessment of policy, criteria, contracts, and other areas, identifying gaps in the facility/site's sustainable building program.
 - 4) Key action items, including major milestones and responsible parties.
- (D) Database. The contractor must maintain a database compatible with the Departmental High Performance Federal Buildings Database designed to document the planning, execution and maintenance of the requirements set forth in this Section. All such information must be available on the web.

- (E) Leased facilities. To the greatest extent practicable, the contractor must include a preference for buildings that have attained LEED Gold certification with emphasis on energy efficiency, water efficiency, and use of renewable energy in the selection criteria for acquiring leased buildings. Alternately, the selection of buildings that have the Energy Star[®] Building label. When entering into renegotiation or extension of existing leases, the contractor must include lease provisions that at the very least support the Guiding Principles. All build-to-suit lease solicitations must incorporate criteria for sustainable design and development, energy efficiency, and verification of building performance in accordance with the LEED Gold requirements.
- (F) Contractors must make all reasonable efforts to minimize the use of petroleum-based fuels in DOE-owned buildings and facilities by switching to a less greenhouse gas intensive, non-petroleum-based energy source such as natural gas or renewable energy source as measured at the end source. For buildings and facilities that use petroleum-based fuel systems, contractors must provide dual-fuel capability where life cycle cost-effective and practicable.

8. Transportation/Fleet Management.

- (A) To achieve the petroleum reduction goal of Section 2(g) of E.O. 13423, the contractor must:
 - 1) Reduce vehicle miles traveled through such methods as trip consolidation practices, increased use of videoconferencing and web conferencing, and the use of mass transportation/agency shuttles.
 - 2) Increase overall fleet fuel economy through acquisition of higher fuel economy vehicles (e.g., smaller sized vehicles, hybrid-electric vehicles, and other advanced technology vehicles).
 - 3) “Right-size” its fleet, employing the most fuel-efficient vehicle for the required task and having the appropriate number of vehicles relative to need.
 - 4) Employ efficiency strategies such as low rolling resistant tire, synthetic oil, and other technologies.
 - 5) Consider the use of plug-in hybrid electric vehicles (PHEVs). To be considered eligible for dual-fuel vehicle status, PHEVs must meet the alternative fuel definitions of the Energy Policy Act (EPAct) of 1992, as amended by EPAct 2005; to do so, PHEVs will have to meet the minimum driving range as specified by the U.S. Department of Transportation and use electricity generated from a non-petroleum source or from the grid.

- 6) To achieve the goals of the Secretary's TEAM Initiative, and ensure that the Department remains a leader in sustainable transportation management, each contractor must:
 - (B) By the end of FY 2008, each facility/site with alternative-fuel vehicles must have adopted an executable plan that ensures the exclusive use of alternative fuel, either on site or within 5 miles of the site. The procedure for each facility/site to arrange alternative fuel access should be executed as follows:
 - 1) Potential existing alternative fuel infrastructure must be investigated, using, among other tools, DOE's Alternative Fueling Station Locator.
 - 2) Where no infrastructure currently exists within 5 miles, the contractor shall investigate possible solutions through private-sector alternative fuel distributors, including existing fuel vendors and stations. Where possible, partnerships should be sought with nearby Federal, State or local governments to aggregate demand for alternative fuel. Facilities/sites must work with DOE's Clean Cities program to coordinate these partnerships.
 - 3) When these options have been exhausted, the facility/site must initiate a procurement process for the installation of on-site alternative fueling infrastructure. On-site fueling should be pursued when cost-effective.
 - (C) The contractor must arrange for the procurement of alternative-fuel vehicles to replace the existing conventional-fuel fleet, with the goal of replacing the existing fleet with alternative fuel and/or hybrid technology vehicles by the end of FY 2010.
 - (D) For the purposes of the TEAM Initiative, "alternative fuel vehicles" are defined according to Section 301 of EPCA 1992.

9. Data and Tracking.

- (A) Annual reports. The contractor must provide compliance data to its appropriate Department office no later than November 23 of each year, or as otherwise required by the appropriate Department office, starting with the FY 2007 data and each year thereafter. The contractor must implement internal policies that will ensure accurate tracking of the vehicle acquisitions and inventory, mileage, fuel consumption by fuel type, and other relevant data.
- (B) Monthly reports. Upon the monthly receipt from the Department of the facility/site's vehicle tag numbers, fuel use data (by fuel type for all petroleum

and alternative fuels) for covered GSA-leased vehicles, the contractor must track these data to ensure its accuracy and also track comparable data for all covered Department-owned and commercially leased vehicles.

(C) Credits. Alternative fuel vehicle (AFV) acquisition requirements are provided in section 303 of EPCA 1992. Vehicles acquired under section 303 means (i) new purchase, (ii) a newly leased vehicle, or (iii) a leased vehicle that replaces an existing leased vehicle. In calculating AFV acquisition compliance, the Department must receive the following credits:

- 1) One credit for each dual-fuel AFV (flexible fuel or bi-fuel), regardless of vehicle size class as long as the vehicle meets the AFV definition of EPCA 1992, as amended by EPCA 2005.
- 2) Two credits for each dedicated light-duty AFV.
- 3) Three credits for each dedicated medium-duty AFV.
- 4) Four credits for each dedicated heavy-duty AFV.
- 5) No credit is provided for AFVs that are not licensed for use on all roads and highways.

10. Water Management. Implementation of water management program and plans. The contractor's water management programs are to include not less than four best management practices published by FEMP. Implementation means incorporating water management plans into facility planning and operating processes; applying appropriate operations and maintenance options; and installing retrofit/replacement options that have been identified within the last two years from completed facility audits.

11. Utilities Acquisition and Management.

- (A) Every facility/site will be supported by a Headquarters program office that will coordinate its utilities acquisition and management program to provide a consistent corporate approach to utilities acquisition and management, especially at multi-program sites.
- (B) Utilities management performance measures will be commensurate with the value and importance of the asset.
- (C) Utilities acquisition and management performance measures must ensure formal, comprehensive, integrated, documented planning and control methods. These measures will address, but not be limited to, the following:

- 1) a planning process for utilities acquisition and management,
 - 2) ensuring that each facility/site complies with the renewable and clean energy utility acquisition requirements of the Order;
 - 3) ensuring electric, gas, and water loads are met and managed to minimize cost of utilities maximize reliability, and mitigate the impact of supply disruptions; and
 - 4) maximizing the use of clean and renewable energy resources (procured from off-site sources or generated on-site) to minimize environmental impacts and green houses gas emissions. Excess renewable power generated or procured by a facility/site can be sold to other power users.
- (D) The process for operation and maintenance of physical assets at the facility/site must ensure efficient and effective management and use of on-site utility distribution systems and supply contracts.
- (E) Utilities services must be acquired and disposed of through a DOE prime contract.
- (F) In the acquisition and management of utilities, contractors must ensure that all applicable Federal, State, and local laws and regulations are followed.
- (G) The contractor must ensure the installation of advanced meters at all buildings and participation in the centralized data collection, reporting and management system.
- (H) The contractor must track progress towards meeting energy efficiency, water conservation, greenhouse gas reduction and renewable energy goals using the EMS required per DOE O 450.1.
12. Personnel Management
- (A) The contractor must train personnel at the facility/site to direct energy and water management programs and dedicate all or a substantial portion of their time to the effective implementation of energy and water management plans.
- (B) The contractor must implement employee incentive programs to reward exceptional individual and team performance in increasing energy efficiency and water conservation, deploying renewable energy, minimizing waste, reducing utility costs, and reducing greenhouse gas emissions.
- (C) The contractor must implement outreach programs to motivate employees to become more efficient in their use of energy, water, and green products and services, and to minimize waste.